

REMARKS

Claims 1-10 remain pending in this application. Claims 11-29 have been cancelled. Reconsideration of this application is requested.

The rejection of claims 1-3 and 8-10 under 35 U.S.C. § 103(a) as being unpatentable over Yamashita et al., U.S. Patent No. 4,823,016, in view of Joung et al., is respectfully traversed.

The Office action alleges that Joung et al. teaches “the claimed equation” and asserts that it would have been obvious to apply the statistics based approach of Joung et al. “to the conventional variable R used in the estimation of position in the scintillator bar.” To the contrary, Joung et al. discloses a statistics based positioning (SBP) algorithm in a continuous LSO crystal slab for small animal PET applications. The equation at page 1138 is not the equation as set forth in claim 1.

In particular, Joung et al. teaches that an estimate of event position x in a continuous scintillation crystal slab is based on the probability of making a particular observation m_i of possible PMT outputs M. Joung et al. does not teach determination of a spatial location of a detected scintillation interaction in the elongated dimension z of a scintillation crystal bar, using the variable $R = \frac{E_1 - E_2}{E_1 + E_2}$ as defined in claim 1.


Yamashita discloses only that the z coordinate position of a gamma interaction is determined by comparing the intensity of output A with output B, as shown in Fig. 5C. One of ordinary skill in the art having both the teaching of Joung et al. and the teaching of Yamashita before them thus could not arrive at the position calculator as set forth in claim 1.

The rejection of claim 4 as being unpatentable over Yamashita in view of Joung et al. and Joram et al., U.S. Pub. No. 2005/0253073, and the rejection of claims 5-7 as being unpatentable over Yamashita in view of Joung et al. and further in view of Dorenbos et al., U.S. Patent No. 7,067,816, also are respectfully traversed. Neither Joram et al., cited for disclosure of a photodiode array, nor Dorenbos et al., cited for disclosure of various scintillation crystals, cure the basic deficiency in the base combination of Yamashita and Joung et al. Consequently, no combination of these secondary references could result in the invention as set forth in claims 4-7.

Conclusion

In view of the foregoing, claims 1-10 are submitted to define patentable subject matter over the prior art of record, whether considered individually or in combination. Favorable reconsideration, withdrawal of outstanding grounds of rejection, and the issuance of a Notice of Allowance are earnestly solicited.

Please charge any fee or credit any overpayment pursuant to 37 CFR 1.16 or 1.17 to Novak Druce Deposit Account No. 14-1437.

RESPECTFULLY SUBMITTED,					
NAME AND REG. NUMBER	Vincent M. DeLuca Attorney for Applicants Registration No. 32,408				
SIGNATURE		DATE	22 March 2007		
Address	Novak, Druce, DeLuca + Quigg LLP 1300 I Street, N.W., Suite 1000 West Tower				
City	Washington	State	D.C.	Zip Code	20005
Country	U.S.A.	Telephone	202-659-0100	Fax	202-659-0105